ABSTRACT

        The output probability of a mixture Gaussian
HMM is given by a function of a mixture multi-
dimensional Gaussian distribution or the like. The
mixture multi-dimensional Gaussian distribution
corresponds to a sum of multi-dimensional Gaussian
distributions and each multi-dimensional Gaussian
distribution corresponds to a product of one-
dimensional Gaussian distributions for respective
feature components. The numeric values of the one-
dimensional Gaussian distributions relating to typical
dispersion and averages are contained in a numeric
value table (1052). Linear scalar quantization is
employed for feature components of a feature vector as
an object to be recognized, and information in the
intermediate table (401, 402) is referred to with its
quantized value as an index. The intermediate table is
extracted from a global table (400). The global table
contains a plurality of sets of X-direction arrays in a
Y direction as arrays of address information indicative
of locations of the numeric values of the one-
dimensional Gaussian distributions in the numeric value
table. The value of a dispersion (σ) is taken into
consideration upon selection of the X-direction arrays,
while the value of an average (μ) is taken into
consideration upon selection of the first location of
the X-direction array. Thereby the intermediate table
is extracted from the global table, and the numeric

value table is referred to with use of the address
information of the location corresponding to the
quantized value from the first location as an index.